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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/803,504	03/18/2004	Masayuki Momiuchi	463P116	5713
42754	7590	04/06/2006	EXAMINER	
NIELDS & LEMACK 176 EAST MAIN STREET, SUITE 7 WESTBORO, MA 01581			LANE, JEFFREY D	
			ART UNIT	PAPER NUMBER
			2828	

DATE MAILED: 04/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/803,504	<b>Applicant(s)</b> MOMIUCHI ET AL.	
	<b>Examiner</b> Jeffrey D. Lane	<b>Art Unit</b> 2828	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 18 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 March 2004 is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

***Specification***

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: Solid-state laser device using two resonators on the same axis and dual monitors.

***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

3. The terms "short-time" and "long-time" in claim 5 is a relative term which renders the claim indefinite. The terms "short-time" and "long-time" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention.

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 are rejected under 35 U.S.C. 102(b) as being Anticipated by Eguchi et al. (US 5,418,810).

As for claim 1 Eguchi discloses, A solid-state laser device, which comprises a first resonator (91 of fig. 23) for projecting a first laser beam and a second resonator 81 for projecting a second laser beam, wherein said first resonator and said second resonator commonly share a part of an optical axis and an output mirror (77, figure 19) (the SHG of fig 19, 11, is fig. 23; See Column 9 lines 37-39, and Column 12 lines 16-19), and which -comprises a first light emitting unit 94 for said first resonator 91, a second light emitting unit 84 for said second resonator 81, a monitoring means for splitting (13 fig. 19) and monitoring (23 fig 19) a part of said first laser beam and for splitting (13 fig 19) and monitoring (23 fig 19) a part of said second laser beam among the laser beams projected from said output mirror, and a control unit for controlling at

least one of said first light emitting unit and said second light emitting unit based on a detection result from said monitoring means.

***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 2, 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over Eguchi et al. (US 5,418,810) in view of Pocholle et al. (US 5,077,750) and Keller et al. (US 5,007,059).

As for claims 2 and 4 Eguchi discloses all that pertains to claim 1. However Eguchi does not disclose monitoring and controlling the beams independently. Keller

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discloses, "As shown in FIG. 1, the output is coupled via turning mirrors 117 through 120 into a number of utilization devices such as RF spectrum analyzer 110, auto correlator 111, and fast detector and sampling oscilloscope 112. The utilization devices listed above are useful in making necessary adjustments for optimizing the modelocking process. "(Column 4 Lines 27-34). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to have multiple monitoring means to monitor the beams to optimize mode locking. Pocholle discloses "The making of a power laser requires the insertion of a system for blocking the cavity in order to obtain a high population inversion. The electro-optical effect makes it possible to control the opening of the cavity and thus to obtain a very high-level stimulated emission. Should it be desired to carry out or to benefit from an effect of phasing of the elementary sources, the conditions on the state of polarization of the beams calls for the use of half-wave strips as mentioned previously and of a common modulator which can be positioned instead of the Q-switch 8. For a more conventional configuration, each elementary laser may be controlled individually by inserting an electro-optical modulator, not shown, on each channel. In this case, it is not necessary to insert halve-wave strips in the cavity. "(Column 5 Lines 14-30) Therefore it would have been obvious for one of ordinary skill in the art at the time of the invention to control the lasers independently to take advantage of the effects of phasing of elementary sources without the use of halve-wave strips.

As for claim 3, Eguchi discloses, a wavelength of the first laser beam is different from a wavelength of the second laser beam (Column 12 lines 30-37).

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Eguchi et al. (US 5,418,810), and Pocholle et al. (US 5,077,750) and Keller et al. (US 5,007,059) as applied to claim 5 above, and further in view of Morrow (US 5,172,264). Eguchi et al. (US 5,418,810), and Pocholle et al. (US 5,077,750) and Keller et al. (US 5,007,059) disclose all that pertains to claim 2. However they do not disclose using first and second light emitting units: where the first light emitting unit has a pulse that is shorter in length of time than that of the second light emitting unit and where the first light emitting unit also has a higher output peak value than that of the second light emitting unit. Morrow discloses using a pulsed and a continuous laser in combination (See Abstract) to "achieve greater peak powers than such CW mode lasers operated in the gain switched mode have heretofore been capable of attaining." (Column 1 lines 54-57). Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use a continuous wave and a pulsed laser in conjunction to achieve a greater peak power.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jeffrey D. Lane whose telephone number is (571) 272-1676. The examiner can normally be reached on Monday thru Friday 8:30 to 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Minsun Harvey can be reached on (571) 272-1835. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Jeffrey D Lane  
Examiner  
Art Unit 2828

JDL



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